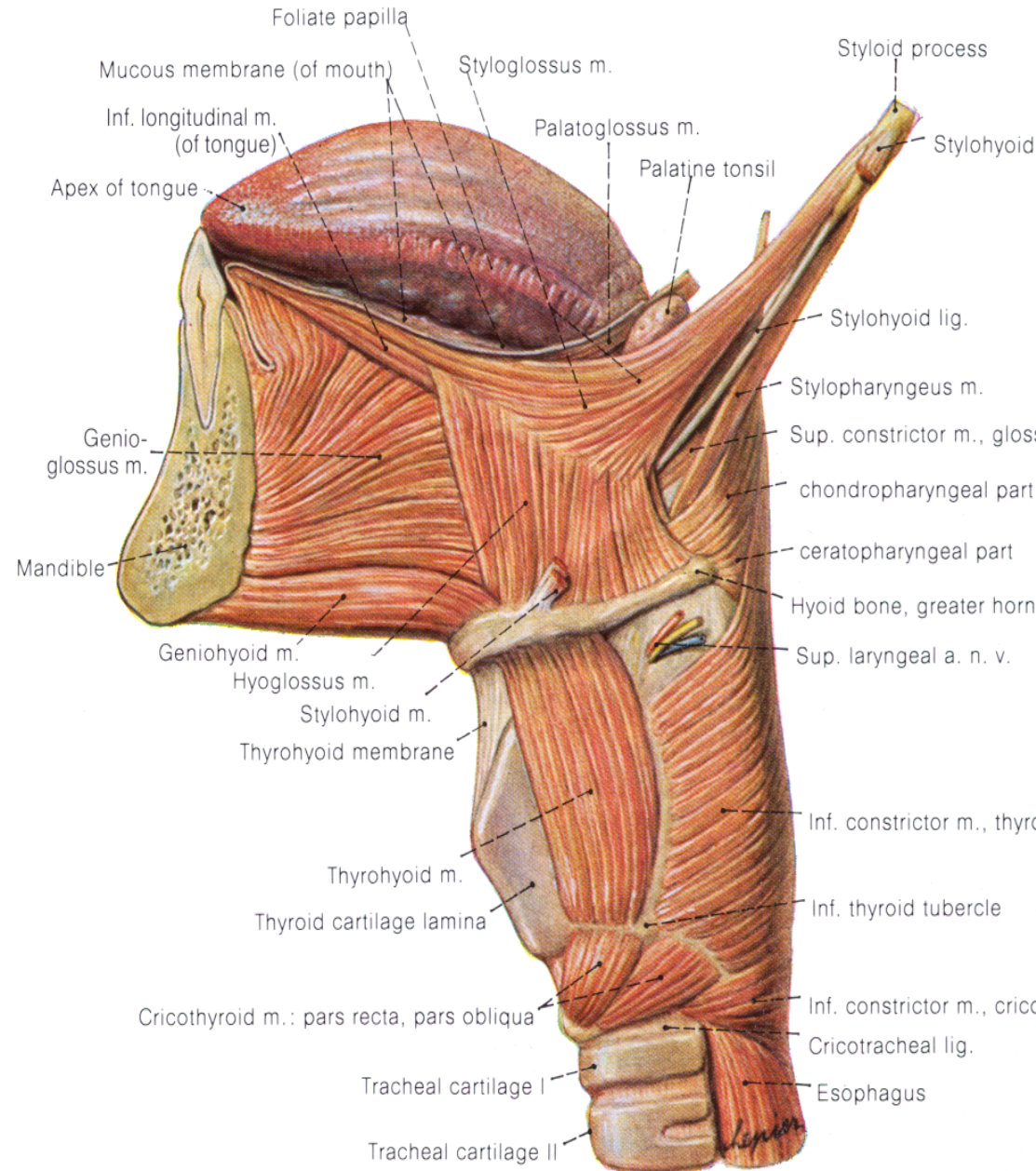


Oral Cavity Part II

ProfDrMTY

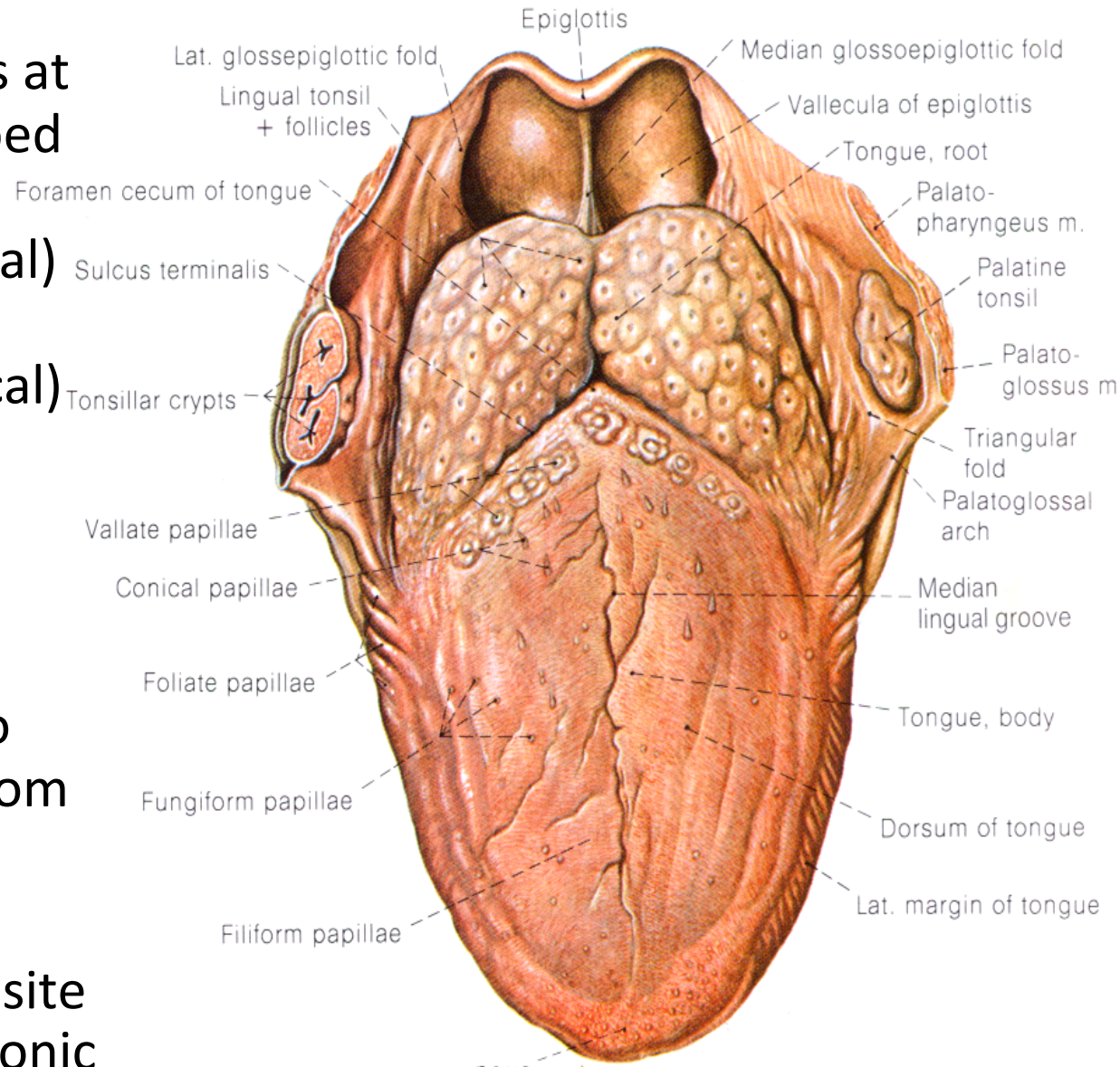
Tongue

- Highly muscular organ of deglutition, taste and speech
- Partly oral, partly pharyngeal in position
- Attached by its muscles to hyoid bone, mandible, styloid process, soft palate, pharyngeal wall
- Parts: Root, apex, dorsum (curved), inf surface
- Mucosa: Pink, moist, attached closely to underlying mm.
- Root: Attached hyoid bone, mandible



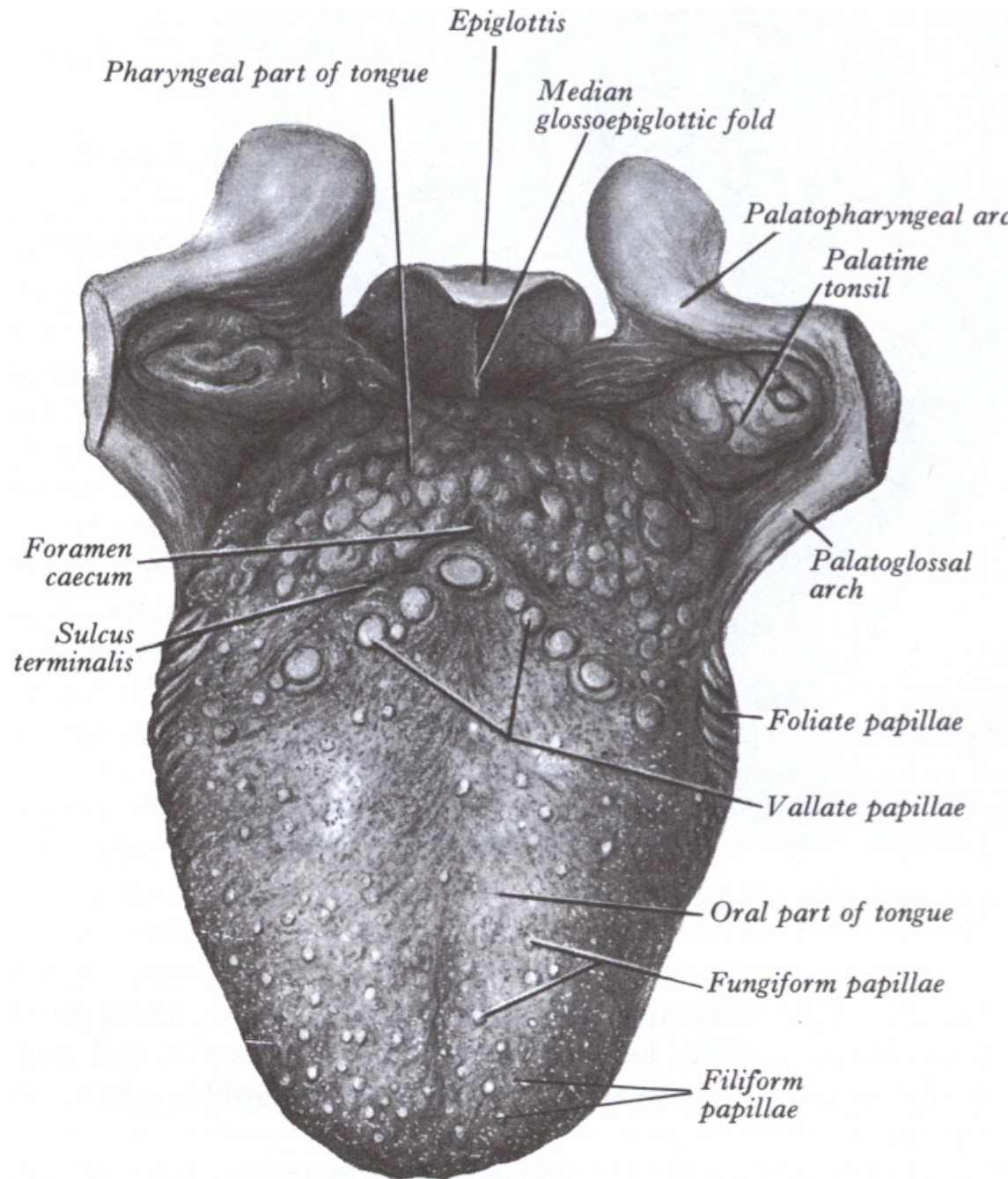
Dorsum of tongue

- Convex in all directions at rest, divided by V-shaped sulcus terminalis into anterior (oral) (presulcal) part, posterior (pharyngeal), (postsulcal) part
- Ant part: Forms 2/3 of tongue's length
- Two limbs of sulcus terminalis run antlat to palatoglossal arches from a median depression; foramen caecum
- Foramen caecum: The site of upper end of embryonic thyroid diverticulum



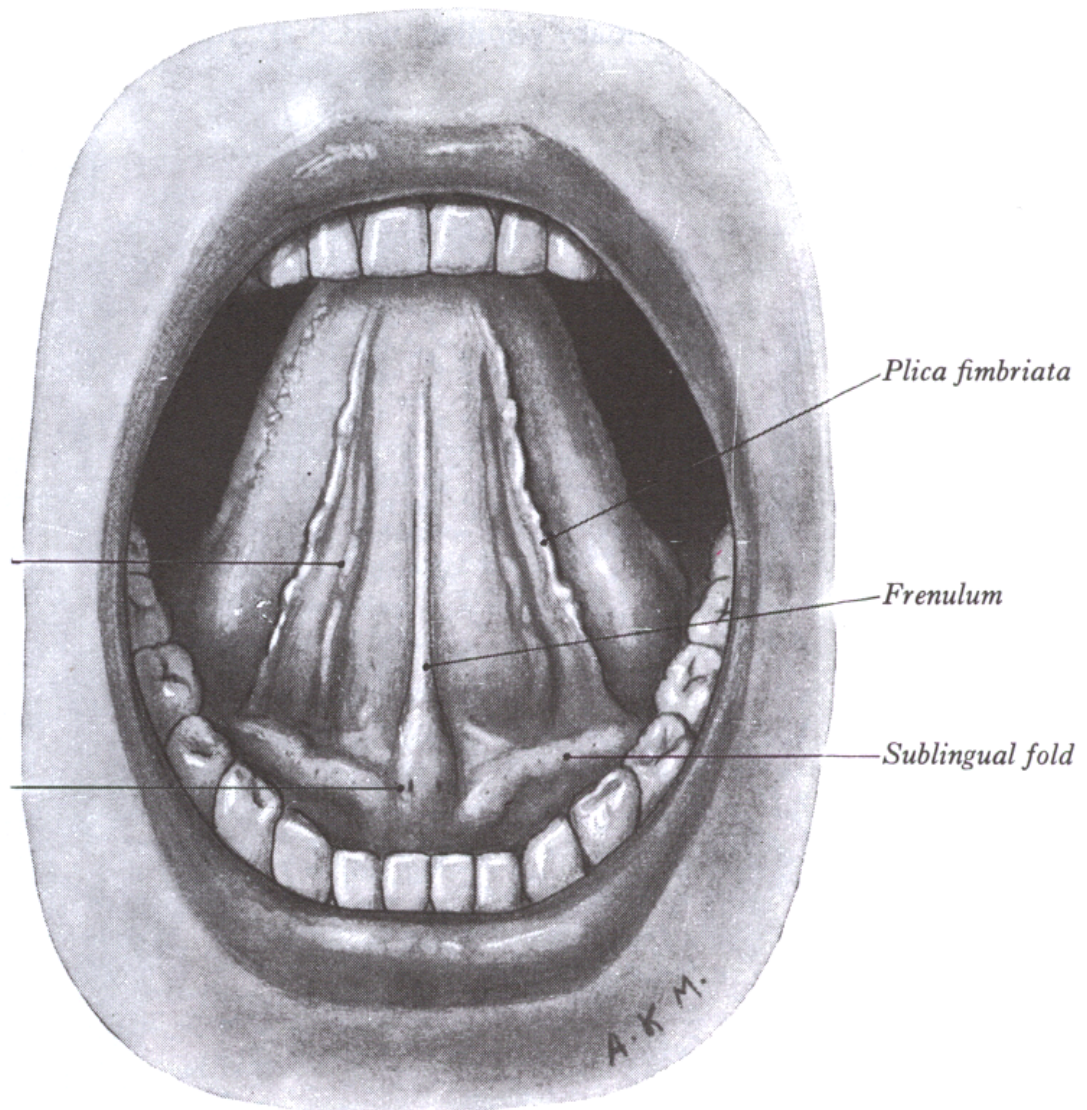
Oral part

- Located in floor of oral cavity
- Has an apex (touching incisor teeth), a margin (in contact with gums, teeth), a sup surface (dorsum; related hard, soft palates)
- Dorsal mucosa; has a long median sulcus and is papillated
- Inf mucosa; smooth, purplish



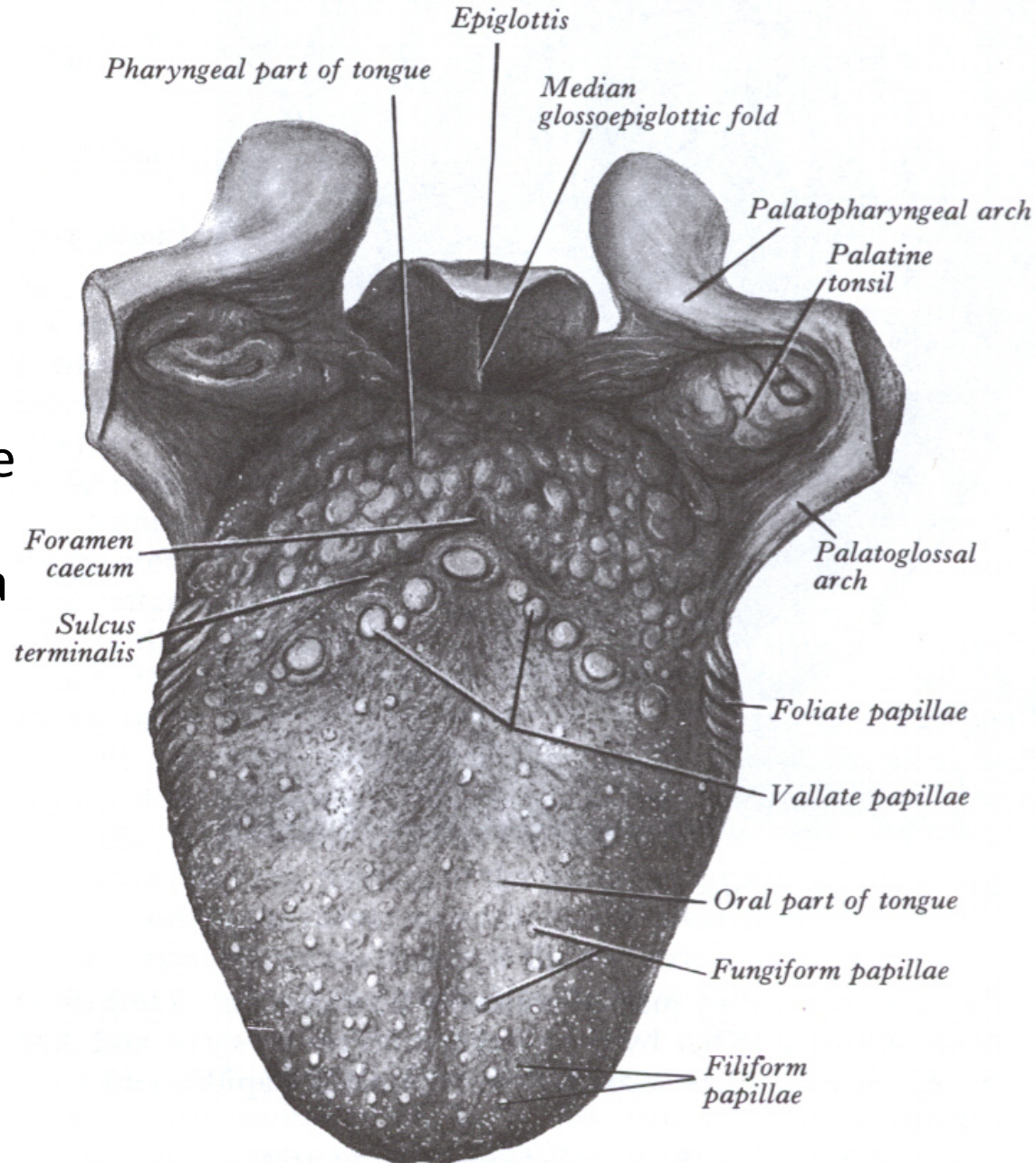
Inferior mucosa of oral part of tongue

- Reflected on to the oral floor and gums
- Connected to oral floor anteriorly by median mucosal fold; frenulum linguae
- Lat to frenulum linguae, on either side, deep lingual v. is visible
- Lat to deep lingual v., fringed mucosal ridge, plica fimbriata
- Plica fimbriata directed antmed towards lingual apex



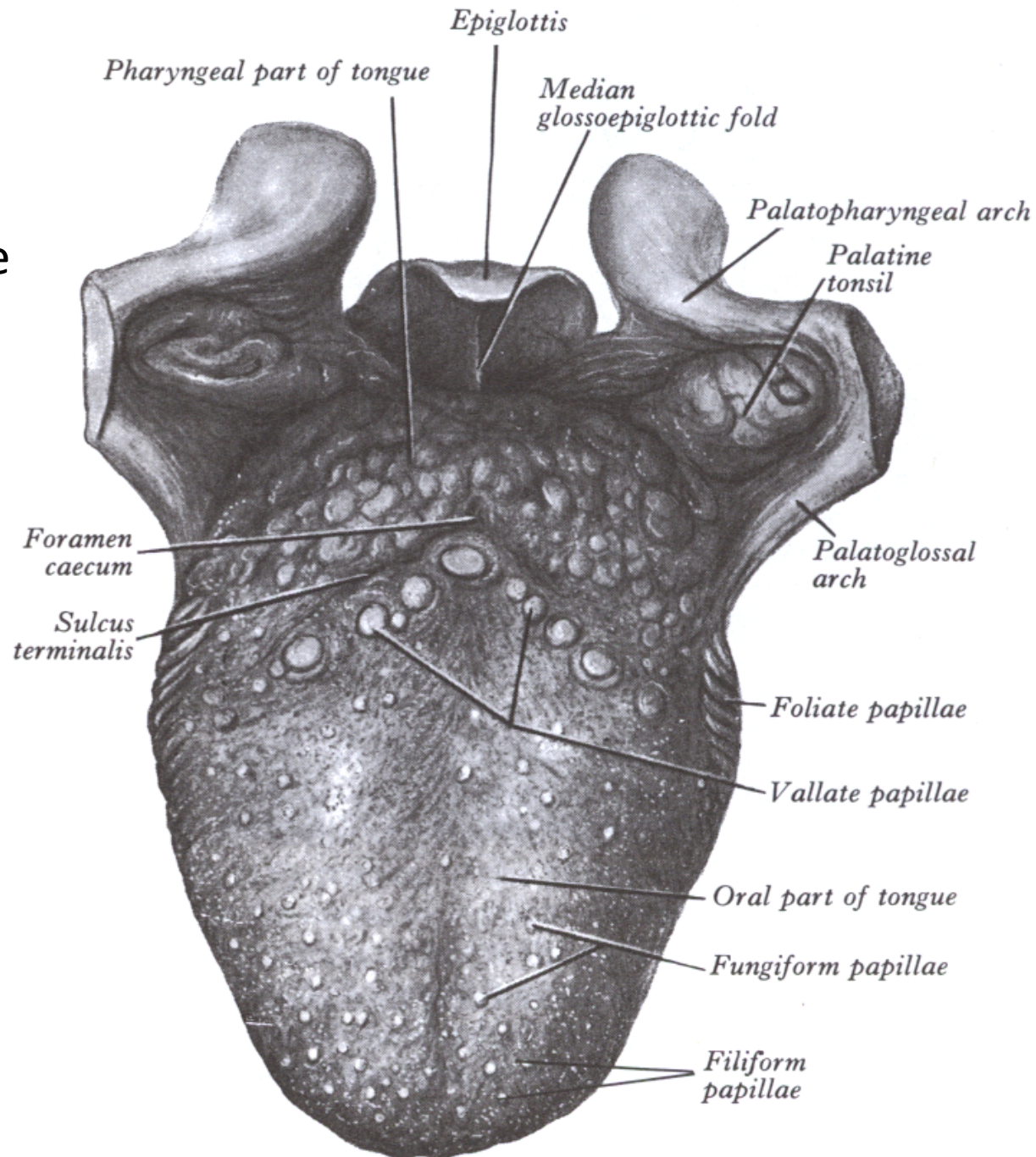
Pharyngeal part of tongue

- Forms base of tongue
- Lies posterior to palatoglossal arches, within oropharynx
- Devoid of papillae
- It has low elevations, due to lymphoid nodules embedded in submucosa → Lingual tonsil
- Ducts of small seromucous glands open on apices of these elevations



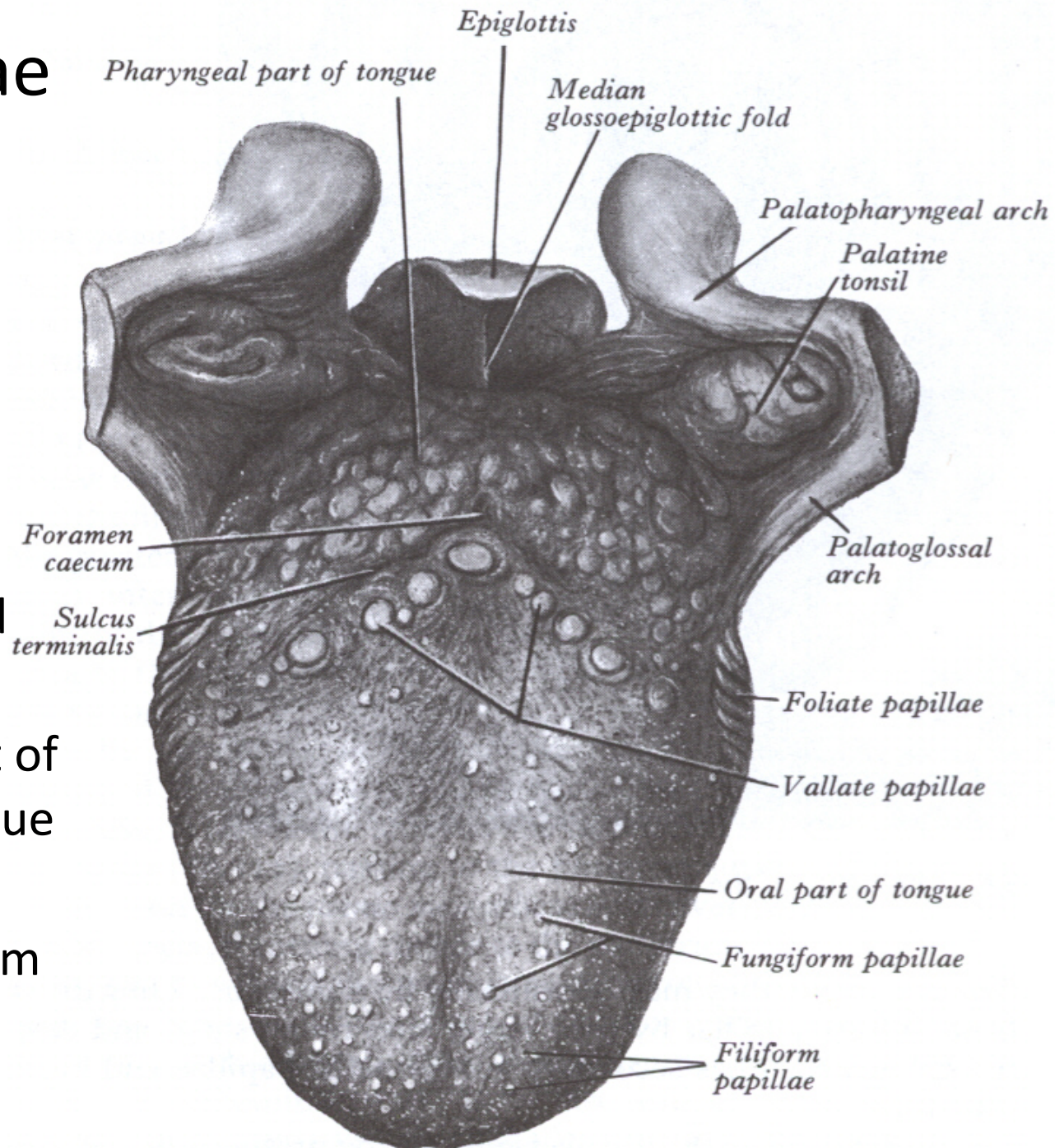
Lingual papillae

- Projections of mucosa from dorsum of tongue
- Numerous, but limited to presulcal part of dorsum
- 4 types; filiform, fungiform, foliate, vallate papillae
- Except filiform papillae, all bear taste buds
- More visible in the living, when tongue is dry



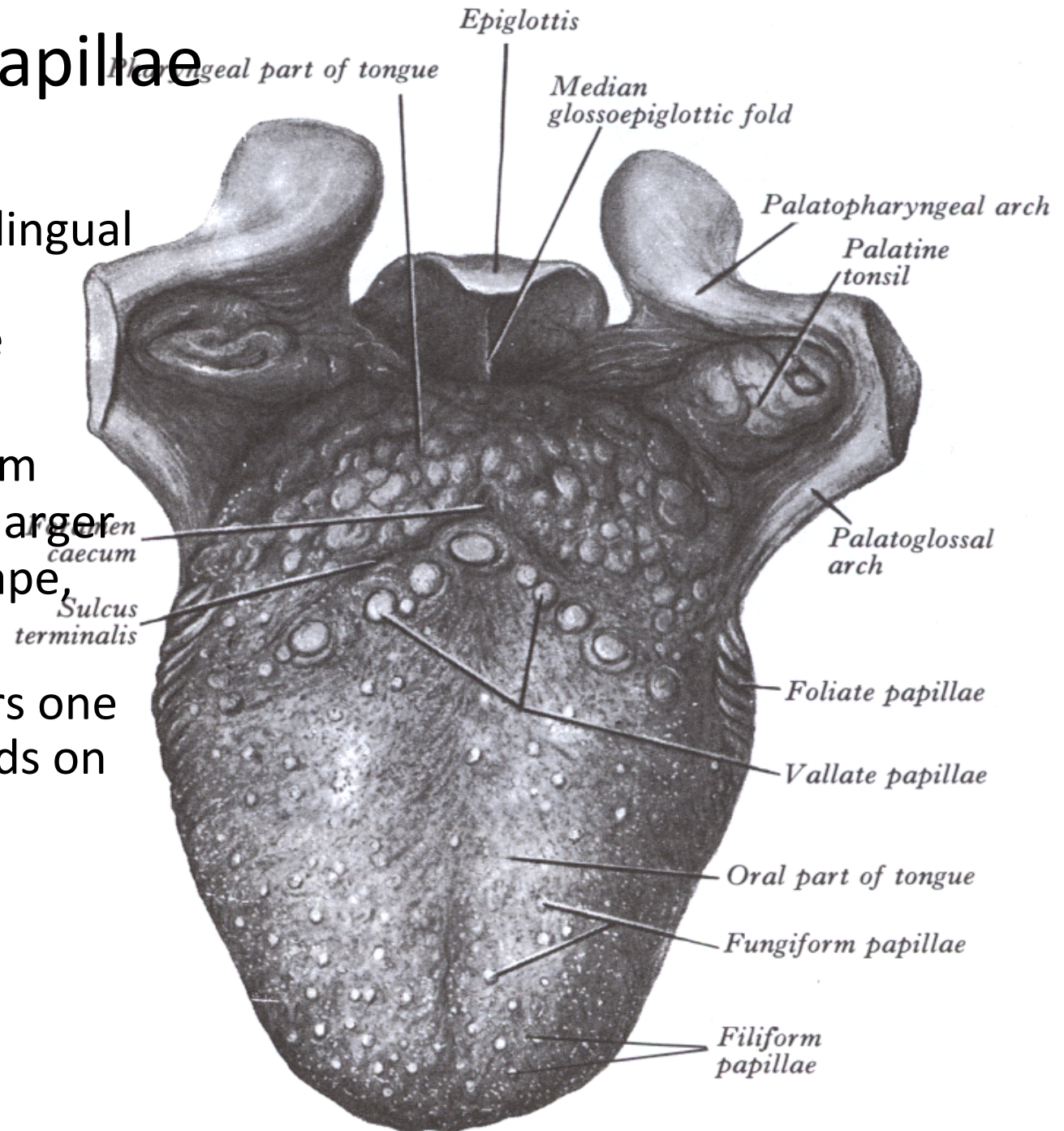
Filiform papillae

- Parallel to sulcus terminalis
- At the lingual apex, have a transverse course
- Increase friction between tongue and food
- Facilitate movement of particles by the tongue within oral cavity
- Long and thick filiform papillae → papillae conicae



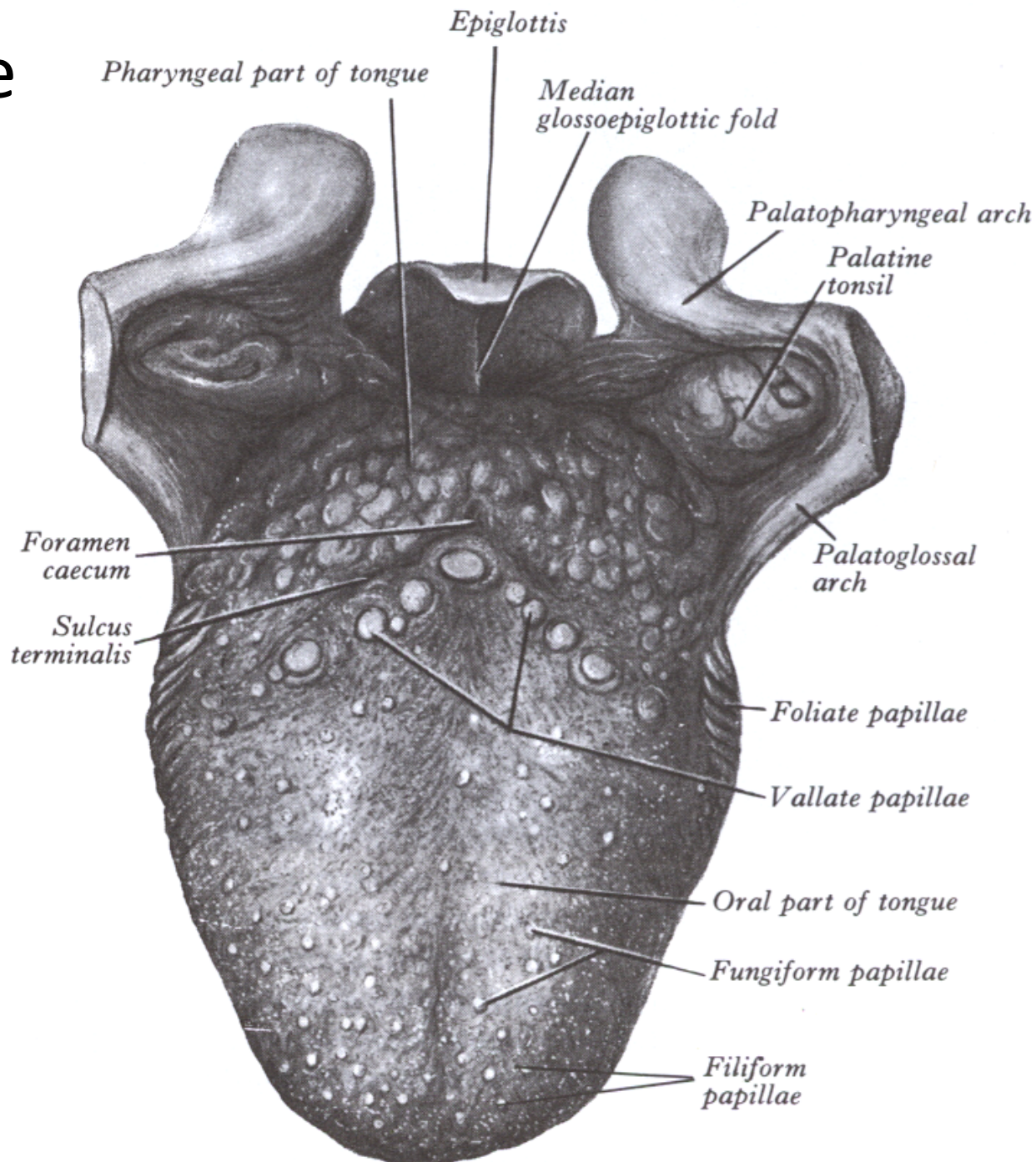
Fungiform papillae

- Occur mainly on lingual margin, but also irregularly on the dorsum
- Differ from filiform papillae by their larger size, rounded shape, deep red colour
- Each usually bears one or more taste buds on its apical surface



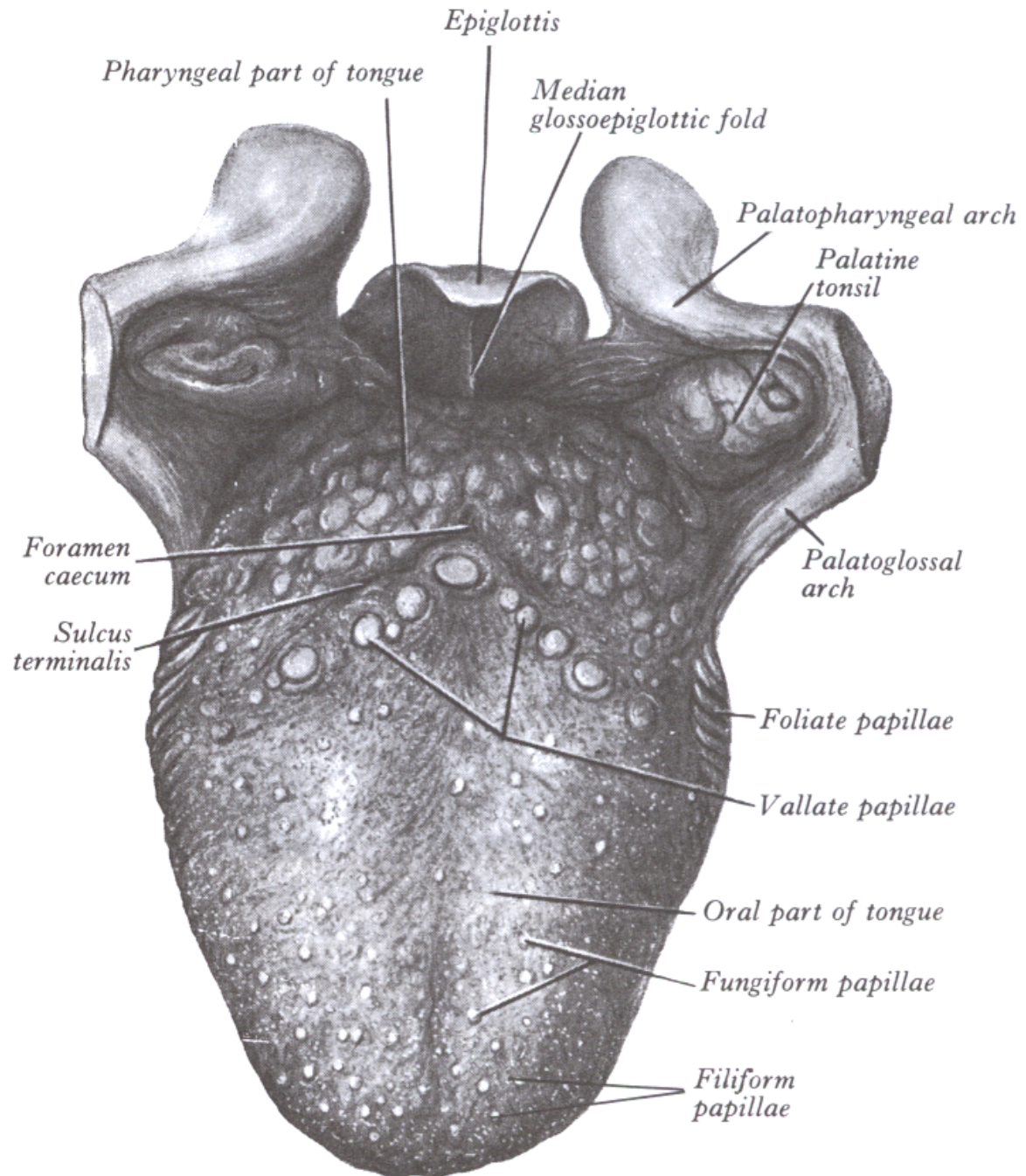
Foliate papillae

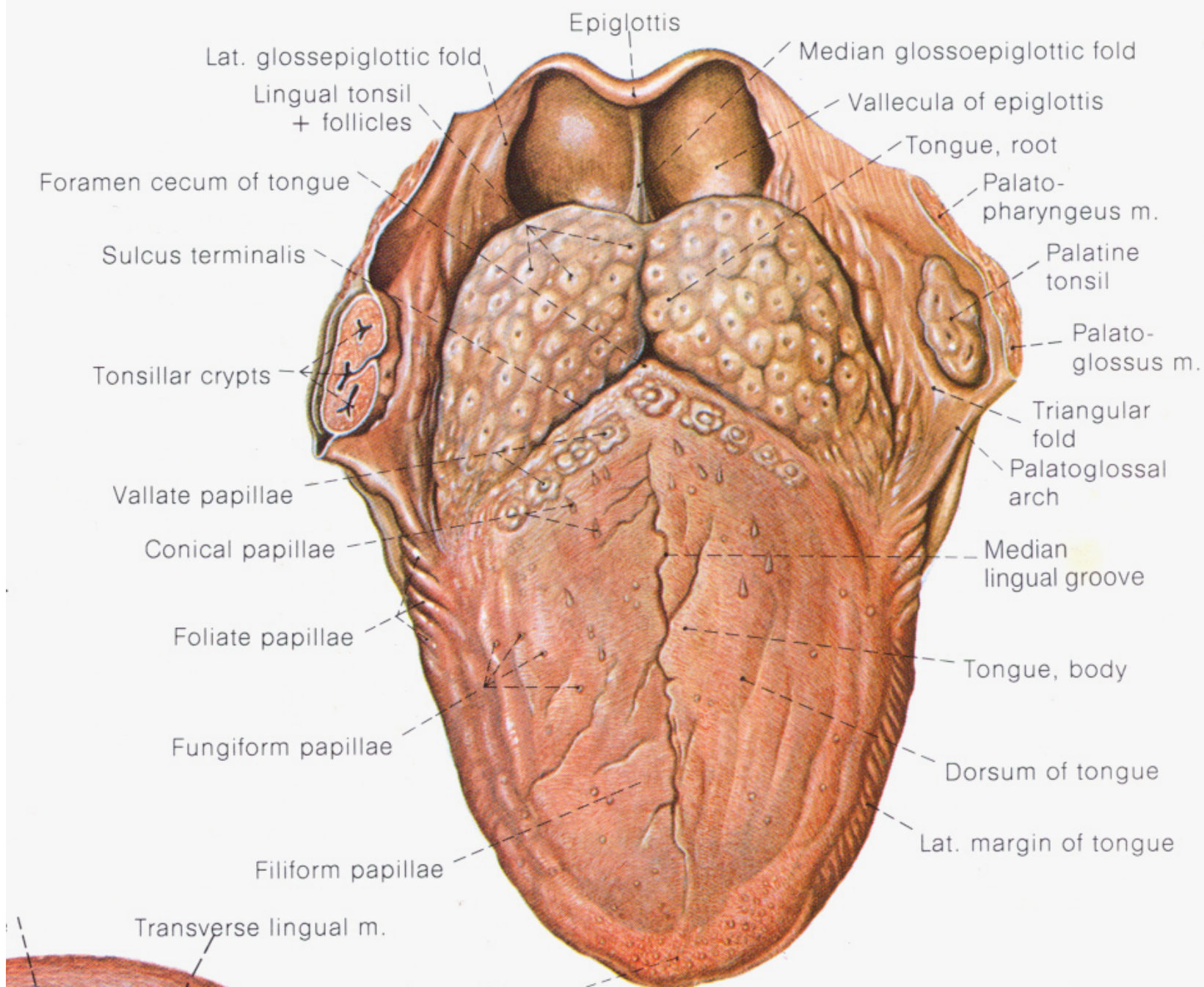
- Lying bilaterally, these are two zones
- Each formed by a series of red, leaf-like mucosal ridges at the sides of tongue, near sulcus terminalis
- They bear numerous taste buds



Vallate papillae

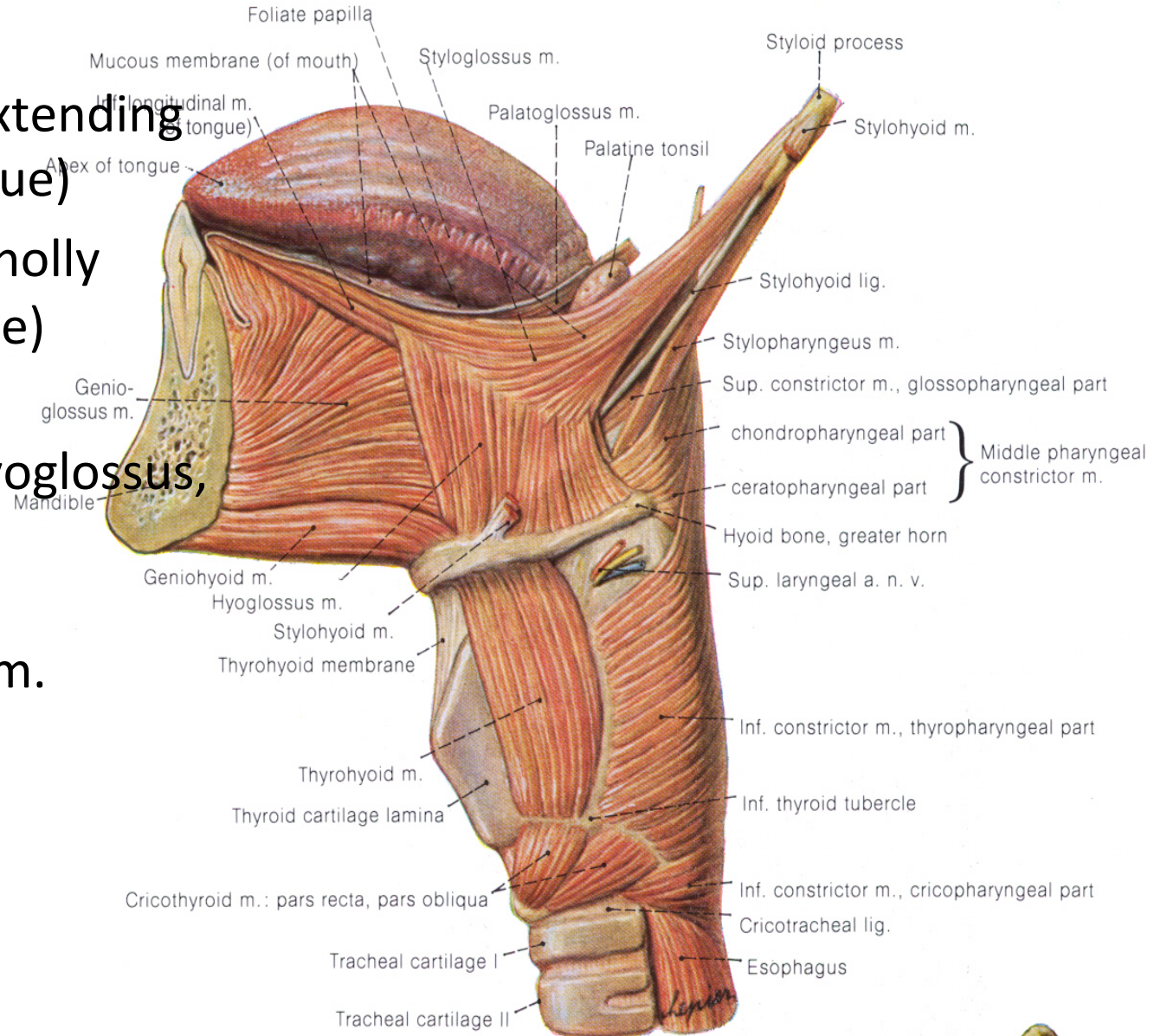
- Large, cylindrical structures
- Vary in number from 8-12 on dorsum of tongue
- Form a V-shaped row in front of sulcus terminalis
- 1-2 mm in diameter



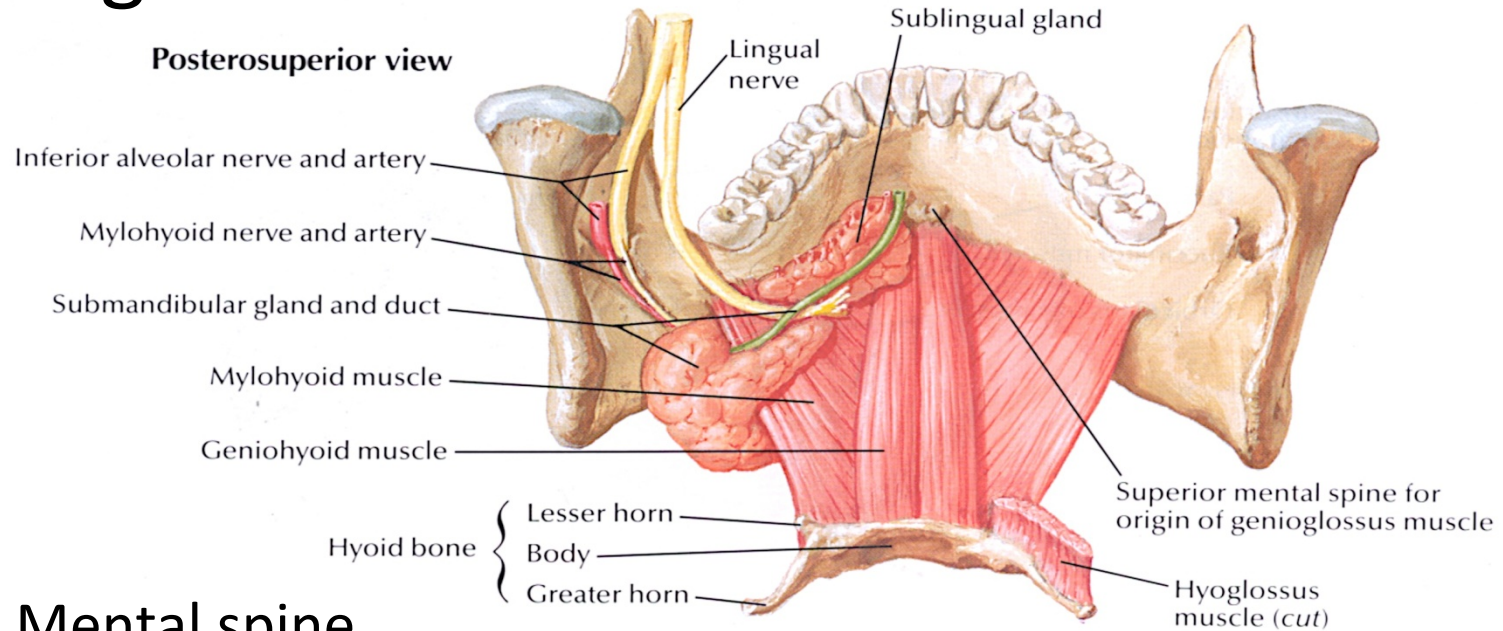


Muscles of tongue

- Extrinsic mm. (extending outside the tongue)
- Intrinsic mm. (wholly within the tongue)
- Extrinsic mm:
Genioglossus, hyoglossus,
styloglossus,
palatoglossus mm.



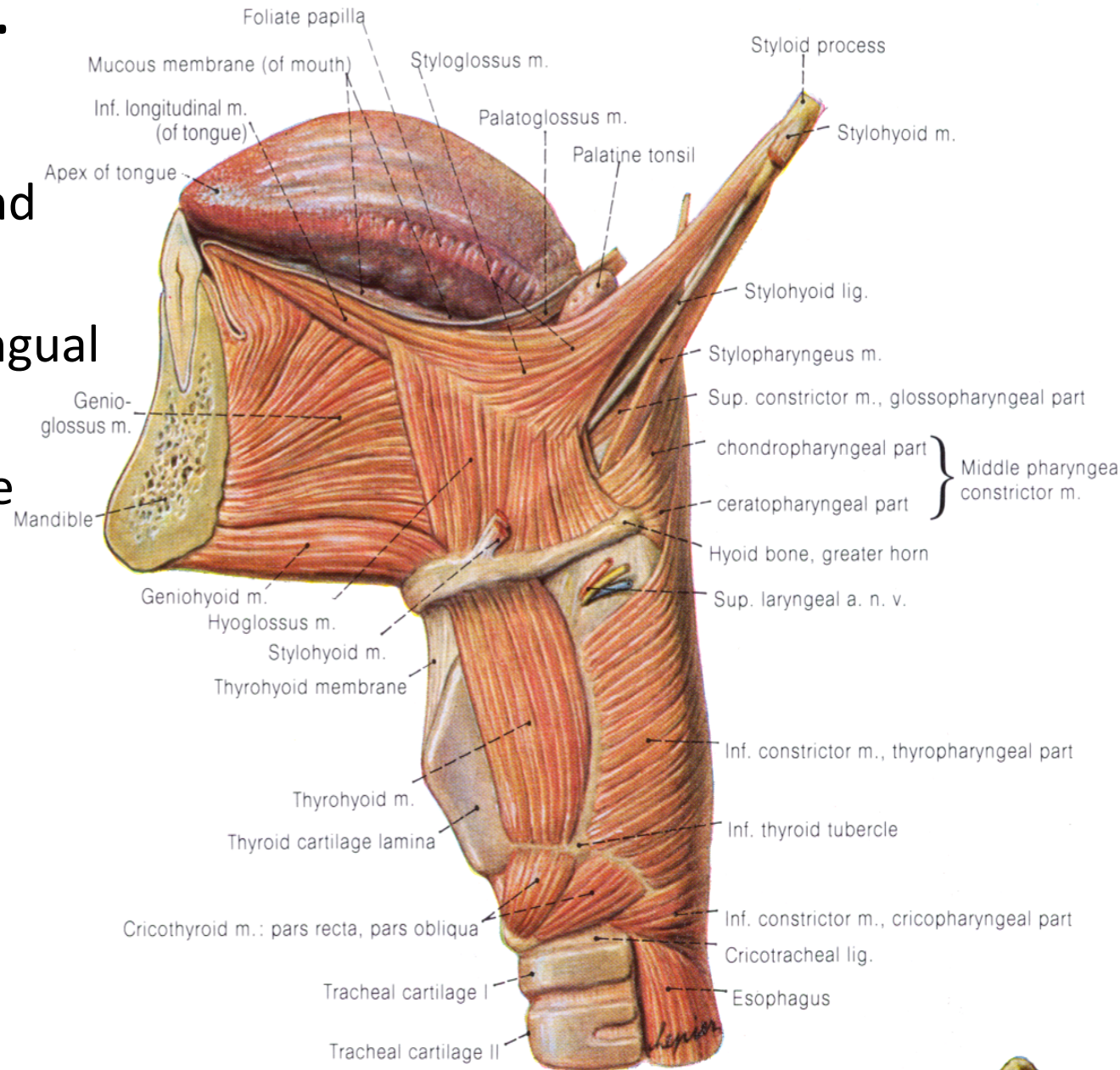
Genioglossus m.



- O: Mental spine
- I: Post tongue, ventral surface of tongue, lingual aponeurosis (lingual septum)
- F: Forward traction of tongue to protrude its apex from the mouth. Acting bilaterally, depress central part of tongue. Acting unilaterally, tongue diverges to opposite side → protrudes and depresses tongue
- N: Hypoglossal n.

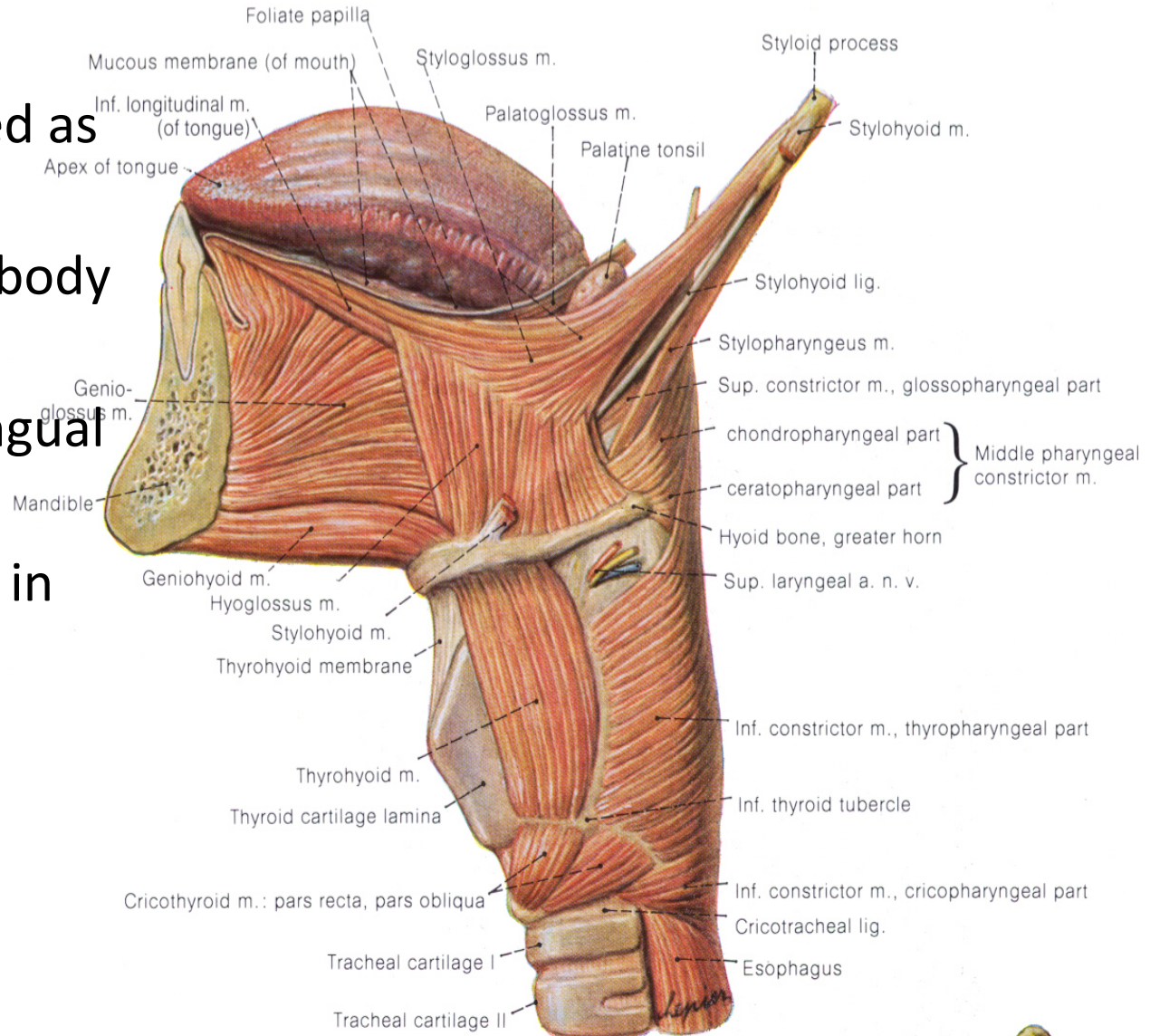
Hyoglossus m.

- O: Greater cornu and body of hyoid bone
- I: Side of tongue, lingual aponeurosis
- F: Depresses tongue
- N: Hypoglossal n.



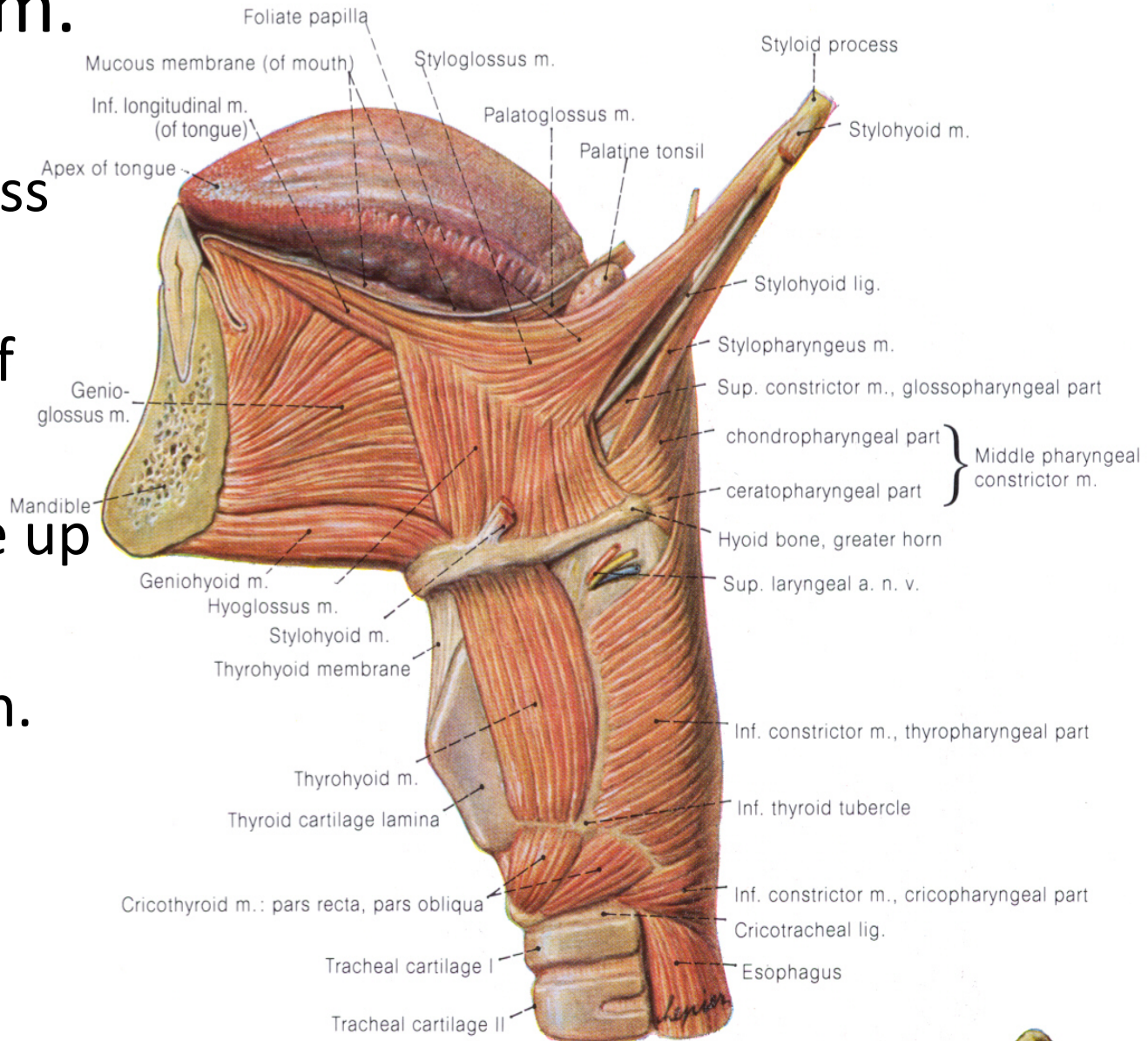
Chondroglossus m.

- Sometimes, described as a part of hyoglossus
- O: Lesser cornu and body of hyoid bone
- I: Sides of tongue, lingual aponeurosis
- F: Assists hyoglossus in depressing tongue
- N: Hypoglossal n.



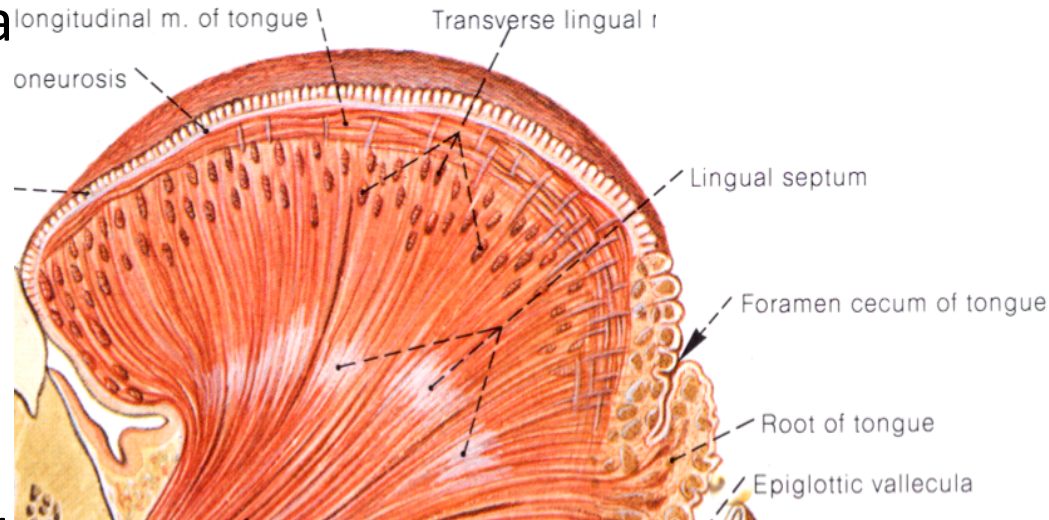
Styloglossus m.

- O: Styloid process
- I: Sides and posterior part of tongue
- F: Draws tongue up and backwards
- N: Hypoglossal n.



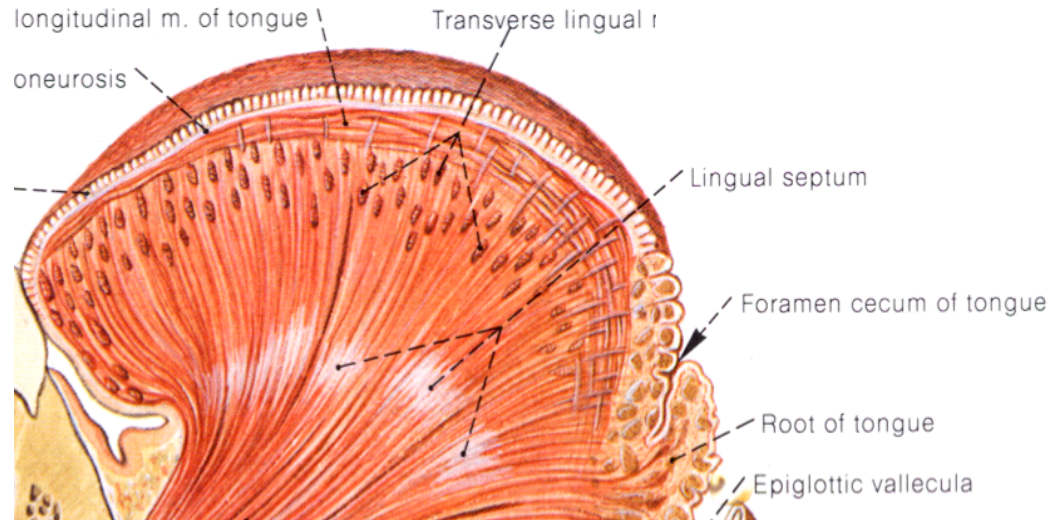
Intrinsic muscles of the tongue

- Sup longitudinal m: Thin stratum of oblique and longitudinal fibres, lying beneath dorsal lingual mucosa
- Inf longitudinal m: A narrow band, close to inferior lingual surface between genioglossus and hyoglossus
- Transverse m: Passes laterally from median fibrous septum to submucous fibrous tissue at lingual margin, blending with palatopharyngeus
- Vertical m: Extends from dorsal to ventral aspects of tongue in the borders of its anterior part



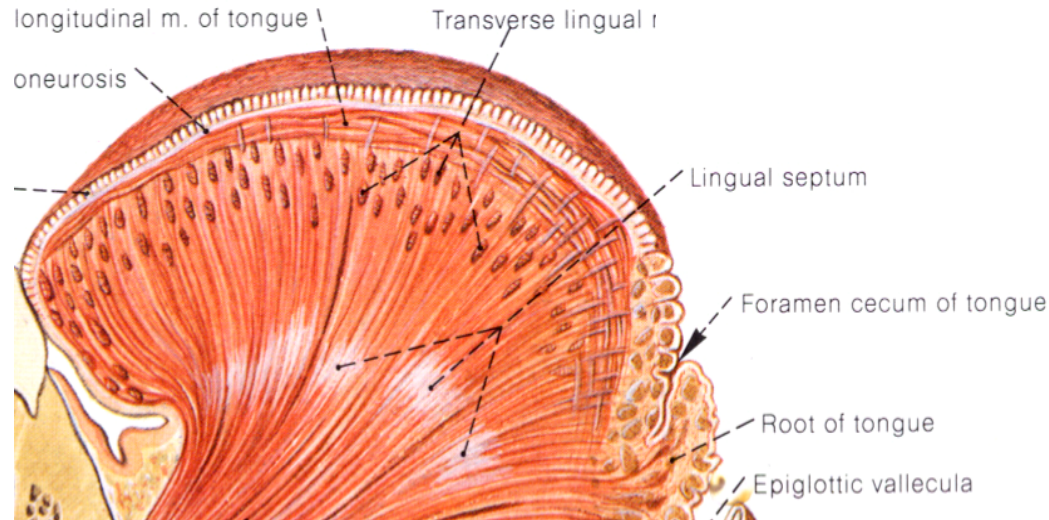
Innervation and function of intrinsic muscles

- N: Hypoglossal n.
- F: Bilateral mm. Intrinsic mm. alter shape of tongue. Sup long. tends to shorten tongue and turns the apex and sides upwards (makes the dorsum concave). Inf long. tends to shorten tongue and pulls the apex down to make dorsum convex. Transverse m. narrows and elongates tongue. Vertical m. makes tongue flatter and wider.



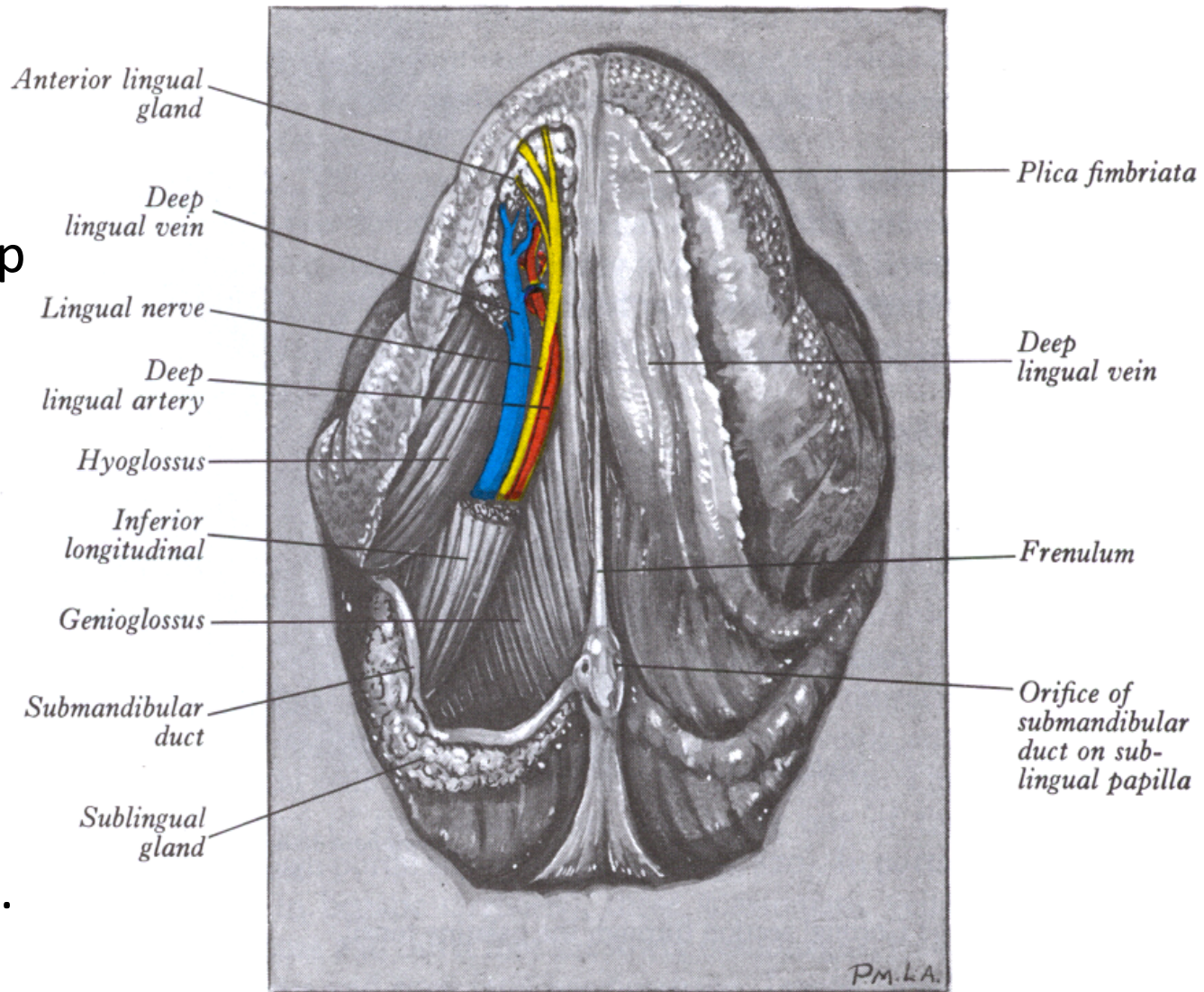
Lingual septum

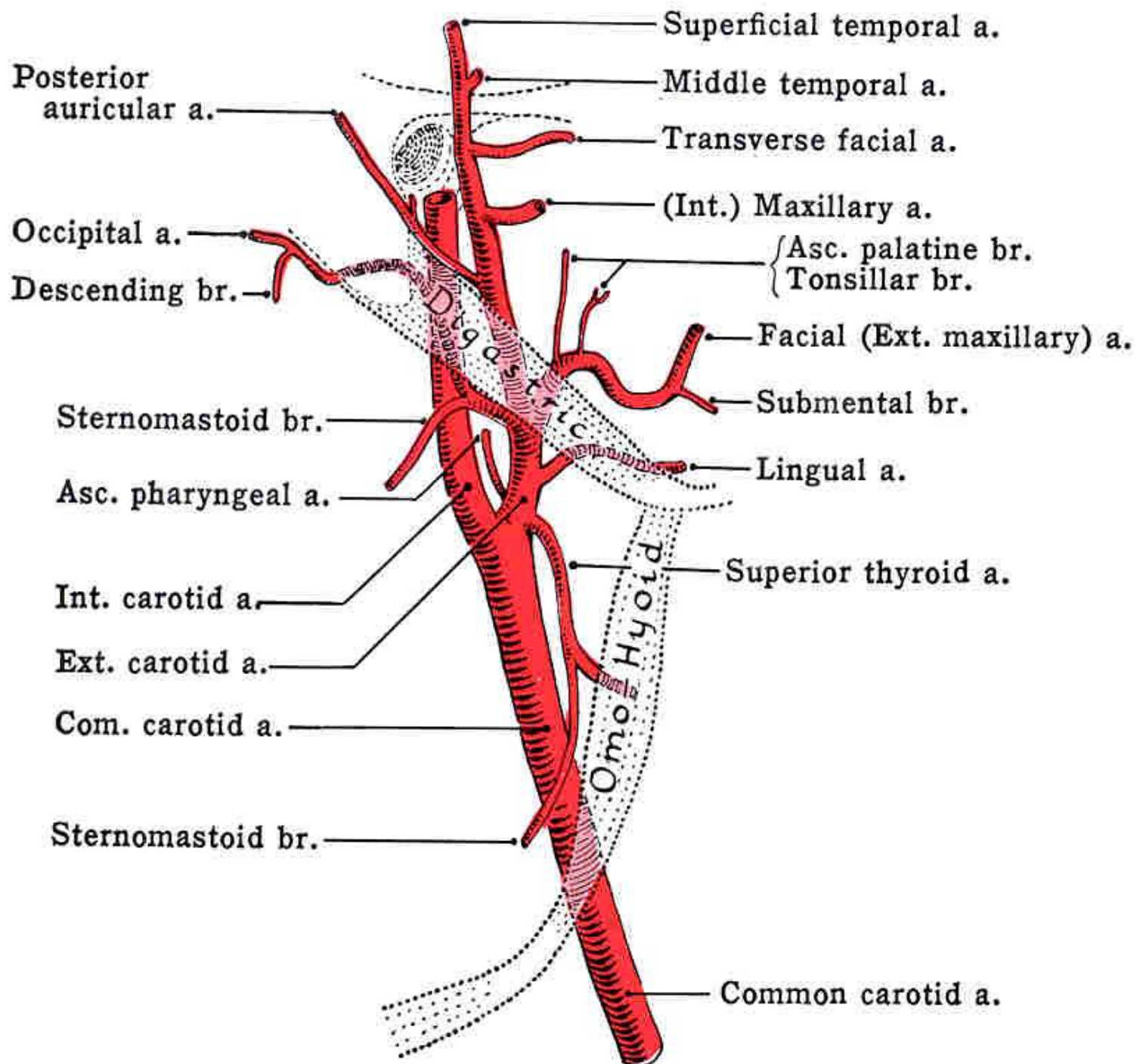
- Median fibrous partition
- Extends through the length of tongue, but does not quite reach the dorsum
- An attachment of transverse lingual mm.
- Appears prominently in coronal sections

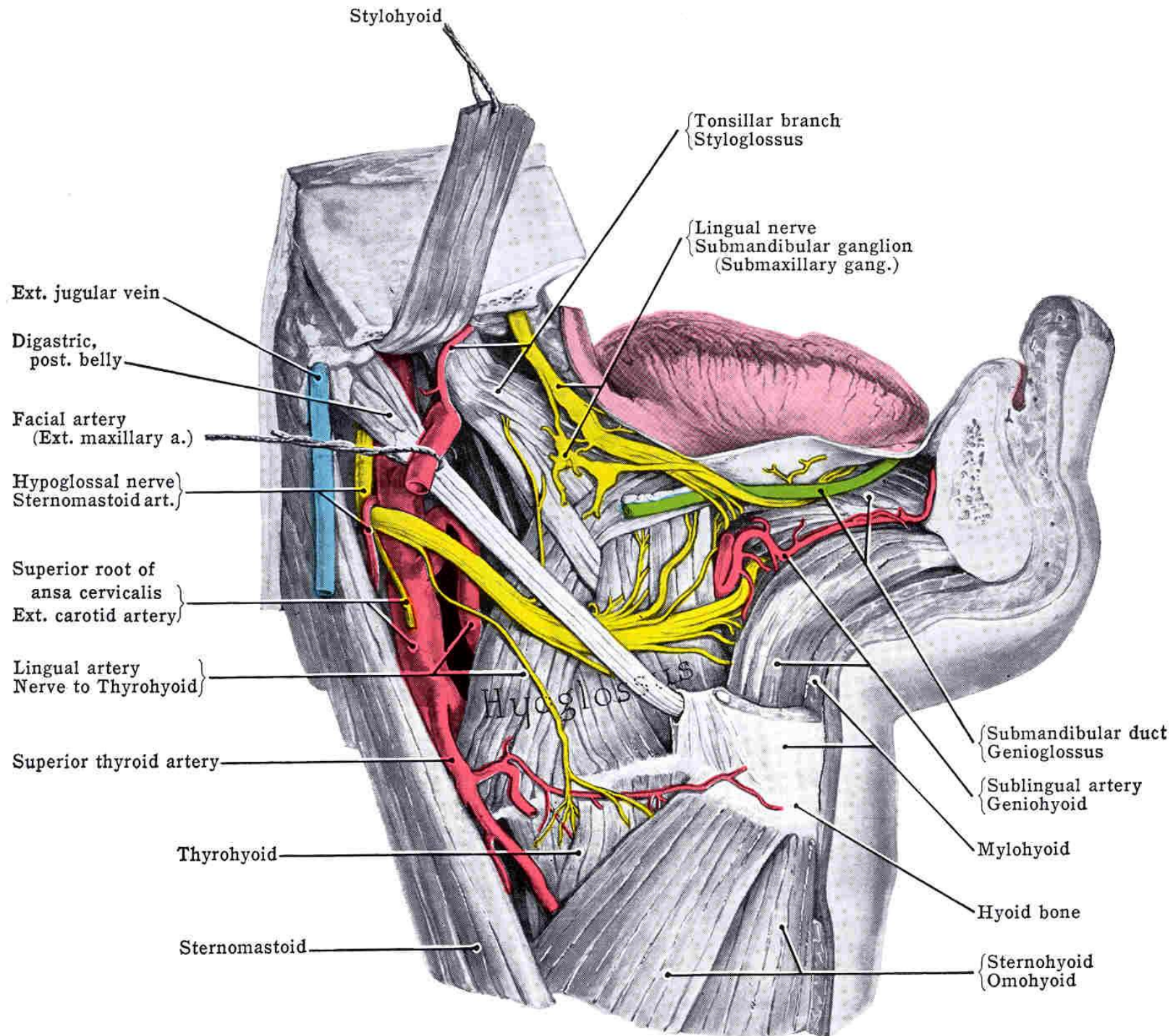


Arteries of the tongue

- Dorsal lingual branches and deep lingual a. (lingual a.)
- Root is supplied also by tonsillar and ascending palatine branches of facial a. and ascending pharyngeal a. (ext. carotid a.)

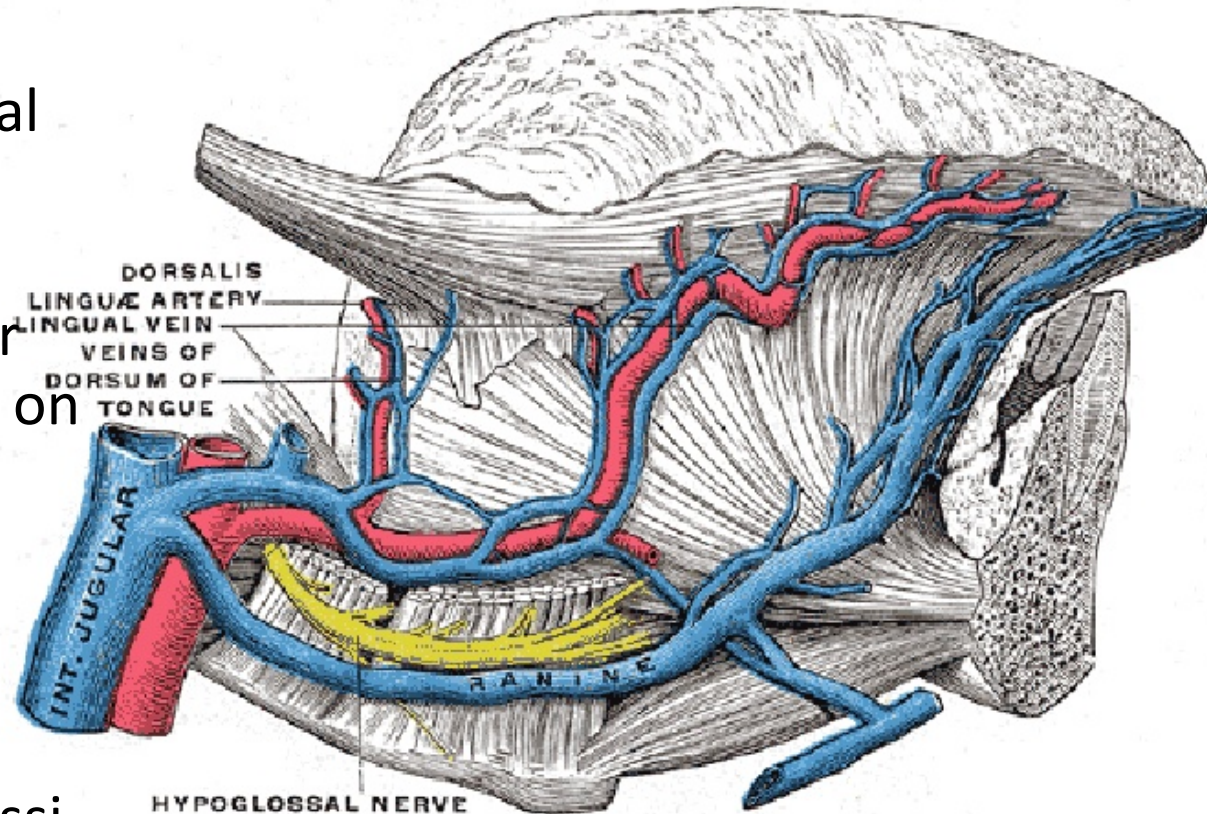






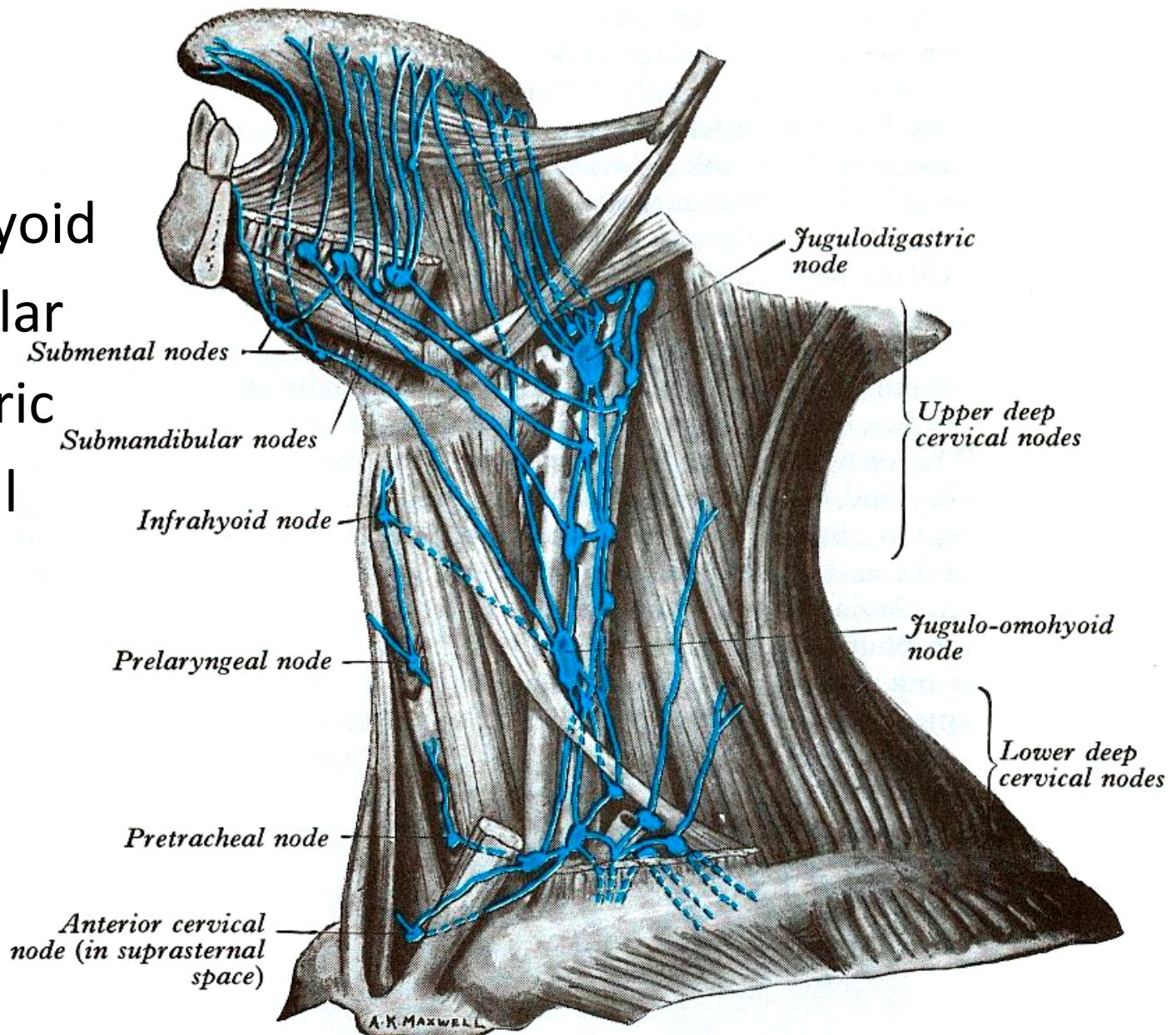
Veins of the tongue

- Dorsal lingual vv.: Drain dorsal and lateral parts > lingual v. > Internal jugular v.
- Deep lingual v.: Begins near tip. Runs back near the mucous membrane on tongue's inf. surface. Near ant. border of hyoglossus; joins a sublingual v. (from salivary gland) → v. comitans nervi hypoglossi
- V. comitans nervi hypoglossi joins; facial, int. jugular or lingual v.



Lymph vessels of the tongue

- Submental
- Juguloomohyoid
- Submandibular
- Jugulodigastric
- Deep cervical



Nerves of the tongue

- Palatoglossus m.:
Pharyngeal plexus. All
other: Hypoglossal n.
- Sensory nn. of 2/3 ant. part
(presulcal region): Lingual
branch of mandibular n.
(general sensation). Chorda
tympani branch of facial n.
(runs in the sheath of
lingual n.) (gustation)
- Sensory nn. of posterior
1/3 part: Glossopharyngeal
n. (general and gustatory
sensation)
- Sup. laryngeal n. (vagus n.)
sends branches to root, in
front of epiglottis

MOTOR NERVES

Vagus nerve
(nerve X)
supplies
Palatoglossus

Hypoglossal nerve
(nerve XII)
supplies all other
muscles of the tongue

SENSORY NERVES (general and special)

{ Internal
laryngeal nerve
(nerve X)

{ Glosso-
pharyngeal nerve
(nerve IX)

{ Lingual nerve
(nerve V)
Chorda tympani
(nerve VII)

